

REMARKS

In the office action dated July 25, 2006, the Examiner rejected claims 1-21. The July 25 Office Action has been carefully considered. Claims 14 and 16 are amended. Claims 1-21 remain pending in this application. The Applicants respectfully request reconsideration of the application by the Examiner in light of the following remarks.

Rejections under 35 U. S. C 112

Claim 16 is rejected under 35 U. S. C 112, first paragraph, because the specification does not reasonably provide enablement for the interconnect having lower coefficient of thermal expansion than the brittle layer. The Applicants respectfully traverse the rejection.

Paragraph 27, page 10 of specification clearly explains the concept of the interconnect having thermal coefficient of expansion lower than that of the brittle layer and also explains specific situations where this concept is applicable. The coefficient of thermal expansion (α_{int}) of the interconnect 22 will be desirably chosen to be less than the coefficient of thermal expansion (α_{cell}) of the exemplary operating layer 14 such that the resulting pre-stress will be compressive when the fuel cell stack is heated from temperature T_P to temperature T_O . Therefore the Applicants respectfully submit that claim 16 is enabled in the detailed description and requests the Examiner to allow claim 16.

Claim 14 is rejected under 35 U. S. C 112, second paragraph as being indefinite due to insufficient antecedent basis for "pre determined thickness". The Applicants thank the Examiner for pointing out the mistake and claim 14 has been amended accordingly to provide sufficient antecedent basis. Therefore the Applicants request the Examiner to allow Claim 14.

Claim Objections

Claim 16 is objected to because it includes reference characters that are not enclosed within parentheses. The Applicants thanks the Examiner for pointing out this mistake. Claim 16 is amended accordingly to delete the reference characters. The applicants request the Examiner to withdraw the objection and allow claim 16.

Rejections under 35 U. S. C 102 (b)

Claims 1-4, 6, 8-11 and 14-21 are rejected as being anticipated by Hsu et al., U.S Patent 4,721,556 (hereinafter Hsu). Applicant respectfully traverses the rejection.

Applicant respectfully submits that Hsu does not disclose all elements of claims 1, 15, 16, 17 and 21.

Hsu describes a method for assembling converter stacks at high temperature which serves not only to fuse the adjacent plates together, but also places the electrolyte plates together (col. 8, lines 14-30). This technique is useful when metallic interconnector plates are disposed between zirconia electrolyte plates since it takes advantage of the large differences in their respective thermal coefficient of expansion.

In contrast, Claims 1, 15, 16, 17 and 21 of present application describe fuel cell assembly and method of making the same using a stress inducer for inducing planar compressive stress to at least one of the brittle layers such as anode, cathode or electrolyte. The details of this additional physical element in the fuel cell assembly are disclosed in the detailed description (Paragraph 25 for example) and Fig. 3. Hsu neither suggests nor discloses a stress inducer, which could also be embedded on to a brittle layer. Therefore Hsu does not disclose all elements of independent claims 1, 15, 16, 17 and 21. The Applicants submit respectfully that claims 1, 15, 16, 17 and 21 are patentably distinct. Claims 2-4, 6, 8-11, 14 and 18-20 depend directly or indirectly from claim 1 and 17. The Applicant respectfully submits for the reasons discussed above that claims 2-4, 6, 8-11, 14 and 18-20 are similarly allowable over the applied reference.

Rejections under 35 U. S. C 103 (a)

Claims 5, 7, 12 and 13 are rejected as unpatentable over Hsu in view of Bothwell et al. US Patent Number 4,276,331 (herein after Bothwell). Applicant respectfully traverses the rejection.

Claims 1 is allowable as discussed in the previous sections. Claims 5,7,12 and 13 depend directly or indirectly from claim 1 and are similarly allowable.

Summary

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact applicant's undersigned representative at the telephone number below.

Respectfully submitted,

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